

In the Claims

1.-13. (Cancelled)

14. (Currently amended) A device according to claim 84, further comprising an antenna coupled to the receiver for receiving signals from the external control device ~~for controlling said actuator.~~

15. (Currently amended) A device according to claim 14, ~~further comprising~~ wherein the receiver comprises a converter for converting radio frequency energy received by said antenna into energy for powering the electrical micromotor ~~device to operate said actuator.~~

16. (Previously presented) A device according to claim 14, further comprising a sensor for sensing the state of the actuator and transmitting a signal via said antenna indicative of said state.

17. (Previously presented) A device according to claim 14, further comprising at least one sensor for sensing at least one of pressure, flow rate and turbulence and transmitting a corresponding signal via said antenna.

18. (Previously presented) A device according to claim 84, further comprising a battery.

19. (Previously presented) A device according to claim 84, wherein said actuator further comprises a flexible membrane for pressing on said bodily vessel.

20. (Previously presented) A device according to claim 19, wherein said membrane comprises at least one corrugation.

21.-27. (Cancelled)

28. (Previously presented) A device according to claim 84, wherein said actuator is arranged to constrict said bodily vessel non-uniformly around its transverse cross-sectional periphery.

29. (Previously presented) A device according to claim 84, wherein said actuator is shaped to define a predetermined profile for said constriction.

30. (Previously presented) A device according to claim 84, further comprising a plurality of said actuators.

31. (Currently amended) A device according to claim 3084, wherein the plurality of said actuators are arranged ~~adapted~~ to constrict said bodily vessel along an elongate portion thereof.

32. (Canceled)

33. (Currently amended) A device according to claim 8432, ~~further~~ wherein the implantable enclosure comprising a titanium or ceramic implantable enclosure.

34. (Currently amended) ~~A combination of a~~ The device according to claim 84, ~~and~~ further comprising an implantable bodily vessel graft.

35. (Currently amended) ~~A combination~~ The device according to claim 34, wherein said actuator is adhered to said graft to prevent uncontrolled constriction of said graft.

36. (Currently amended) ~~A combination~~ The device according to claim 35, wherein said constriction is shaped to resist further buckling under reduced pressure.

37. (Currently amended) ~~A combination~~ The device according to claim 34, wherein said actuator is positioned at the upstream end of said graft.

38. (Currently amended) ~~A combination~~ The device according to claim 34, further comprising a deformable, but substantially incompressible, medium at least partially surrounding said graft at the location of said actuator.

39. (Currently amended) ~~A combination~~ The device according to claim 34, comprising a plurality of said devices disposed along said graft.

40. (Currently amended) ~~A combination~~ The device according to claim 34, wherein one end of said graft is connected to an artery and the other end of said graft is connected to one of an artery and a vein.

41. (Currently amended) A device according to claim 84, further comprising a measuring device coupled to the drive shaft to count a number of revolutions of the drive shaft thereto, ~~to control the level of constriction applied by said actuator.~~

42. (Currently amended) A device according to claim 1741, wherein said sensor measures ~~measuring device is for measuring~~ at least one of flow rate, turbulence and pressure.

43. (Currently amended) A device according to claim 42, wherein said sensor ~~measuring device~~ comprises at least one of a Doppler device, a phonoangiographer and an electromagnetic flow sensor.

44. (Currently amended) A device according to claim 41, wherein said measuring device further is configured to transmit a signal via said antenna to the external control device indicative of a state of the drive shaft ~~is integral with said flow control device~~.

45. (Currently amended) A device according to claim 84, wherein said bodily vessel is one selected ~~form~~ from the group consisting of a blood vessel, lymph vessel, vessel in the digestive tract, vessel in the urinary tract, vessel in the reproductive tract, an AV graft, an artery, a vein, a blood circulatory system shunt, a Blalock-Taussig shunt, and an esophagus.

46.-47. (Canceled)

48. (Currently amended) A device according to claim 31 wherein the plurality of said actuators ~~method of adjustably constricting a bodily vessel comprising~~ controlling the profile of the constriction along its length.

49. (Currently amended) A device according to claim 30 wherein the plurality of said actuators ~~method of~~

~~adjustably constricting a bodily vessel comprising~~ controlling the profile of the constriction around the transverse cross-sectional periphery of said vessel.

50. (Currently amended) A ~~method~~ device according to claim 84 46, wherein said actuator is configured to ~~comprising~~ ~~squeezing~~ said vessel by applying force at one or more points around its periphery in a non-uniform manner.

51. (Currently amended) A ~~method~~ device according to claim 84 46, wherein said actuator is configured to ~~comprising~~ maintaining substantially constant the length of the perimeter of said vessel in transverse cross-section, whilst adjusting the cross-sectional area of the lumen of said vessel.

52. (Canceled).

53. (Currently amended) A device ~~method~~ according to claim 8446, wherein said actuator is configured to ~~comprising~~ maintaining constriction at a level such that ~~the~~ a flow rate through the vessel is below ~~the flow rate at which~~ onset of turbulence ~~occurs~~.

54.-69. (Canceled).

70. (Currently amended) A method of flow control in an AV graft, comprising:
providing an implantable enclosure housing an actuator configured to engage and to adjustably constrict said AV graft, the actuator comprising a rotatable member coupled to a drive shaft of an electrical micromotor via a rotary to linear transmission, a receiver disposed within the

implantable enclosure and operatively coupled to said actuator to selectively adjust a degree of constriction applied by the rotatable member responsive to a signal received from an external control;

providing an external control device configured to telemetrically supply a signal to the receiver to control operation of the actuator;

implanting the implantable enclosure so that the actuator engages said AV graft; and

operating the external control device to selectively
~~the step of constricting~~ said AV graft at its arterial end.

71. (Currently amended) A method according to claim 70, wherein the external control devices is operated so that said actuator of flow control in an AV graft, comprising the step of applying applies constriction over an elongate portion of said AV graft.

72. (Currently amended) A method according to claim 70, wherein the external control devices is operated so that said actuator of flow control in an AV graft, comprising the step of constricting the AV graft at a plurality of positions along said AV graft.

73. (Currently amended) A method according to claim 70, wherein the external control devices is operated so that said actuator of flow control in an AV graft comprising the step of constricting said AV graft so as to reduce the cross-sectional area of the lumen of said AV graft at said constriction while substantially maintaining the length of the perimeter of said AV graft.

74. (Currently amended) ~~Use of a bodily vessel adjustable flow control device~~ The device according to claim 84 wherein the device is configured in the manufacture of a medical device for use in the treatment of kidney disease.

75. (Currently amended) ~~Use of a bodily vessel adjustable flow control device~~ The device according to claim 84 wherein the device is configured in the manufacture of a medical device for use in hemodialysis.

76. (Currently amended) ~~Use of a bodily vessel adjustable flow control device~~ The device according to claim 84 wherein the device is configured in the manufacture of a medical device for use in the treatment of hypoplastic heart syndrome.

77. (Currently amended) ~~Use of a bodily vessel adjustable flow control device~~ The device according to claim 84 wherein the device is configured in the manufacture of a medical device for use in the treatment of esophagus valve failure.

78. (Currently amended) ~~Use of a bodily vessel adjustable flow control device~~ The device according to claim 84 wherein the device is configured in the manufacture of a medical device for use in the treatment of obesity.

79.-83. (Canceled)

84. (Currently amended) A device, for controlling flow in a bodily vessel, said device comprising:

an implantable enclosure;

an actuator disposed within the implantable enclosure, the actuator configured to engage and to for adjustably constricting said bodily vessel, the actuator comprising a rotatable member coupled to a drive shaft of for driving said actuator, and a motor, wherein said rotatable member comprises a drive shaft of said motor, and wherein said motor is an electrical micromotor via a rotary to linear transmission,

a receiver disposed within the implantable enclosure, the receiver operatively coupled to the actuator to selectively adjust a degree of constriction applied by the rotatable member responsive to a signal received from an external control; and

an external control device configured to telemetrically supply a signal to the receiver to control operation of the actuator.

85. (Canceled).